IN THE CLAIMS:

Kindly replace the claims of record with the following full set of claims:

1. (Currently amended) An image processing device, comprising:

an input which receives a stereo pair of images;

a foreground extractor coupled to the input which compares location of like pixel information in each image to determine which pixel information is foreground pixel information and which pixel information is background pixel information,

a DCT block classifier coupled to the foreground extractor which determines which DCT blocks of at least one of the images contain a threshold amount of foreground information, wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8 X 8 DCT blocks and wherein a threshold is provided to determine whether an 8 X 8 DCT block is a foreground block or a background block; and

an encoder coupled to the DCT block classifier which encodes the DCT blocks having the threshold amount of foreground information with a first high level of quantization and which encodes the DCT blocks having less than the threshold amount of foreground information as background information at a second lower quantization level relative to said first high level of quantization, wherein at least a majority of a bandwidth is encoded at the first high quantization level, and said encoder provides bit stream information for decoding of both the high level of quantization and lower level of quantization that are encoded[[;]] and

Amendment After Final Rejection   Docket No. PHA 23,540
Serial No. 09/196,574

~~wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8 X 8 DCT blocks; and~~

~~wherein a threshold is provided to determine whether an 8 X 8 DCT block is to be encoded at the first high level of quantization or the second lower level of quantization,~~ wherein an encoding rate of the second lower level of quantization is not varied to accommodate an encoding rate of the first high level.

2. (Original) The image processing device as claimed in claim 1, wherein the stereo pair of images are received from a stereo pair of cameras spaced closely from one another in a video conference system.

3. (Original) The image processing device as claimed in claim 1, wherein the foreground extractor computes the difference in location of like pixels in each image and selects the foreground pixels as those pixels whose difference in location falls above a threshold distance.

4. (Currently amended) An image processing device, comprising:

an input which receives a stereo pair of images;

a foreground extractor which detects <u>and indicates</u> foreground pixel information from the stereo pair of images,

3

a DCT block classifier receiving the indication of foreground pixel information representing a contour of a participant whose image is at least part of the stereo pair of images by a plurality of 8 X 8 DCT blocks and wherein a threshold is provided to determine whether an 8 X 8 DCT block is to be encoded as a foreground block; and

· an encoder coupled to the foreground extractor which encodes the foreground block pixel information at a first high level of quantization and which encodes remaining blocks background pixel information at a second lower level of quantization relative to said first high level of quantization, wherein at least a majority of a bandwidth is encoded at the first high level of quantization,

wherein said encoder provides bit stream information for decoding of both the high level of quantization and lower level of quantization that are encoded, and wherein an encoding rate of the second lower level of quantization is not varied to accommodate an encoding rate of the first high level [[; and]]

wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8 X 8 DCT blocks; and

wherein a threshold is provided to determine whether an 8 X 8 DCT block is to be encoded at the first high level of quantization or the second lower level of quantization, wherein an encoding rate of the second lower level of quantization is not varied to accommodate an encoding rate of the first high level.

4

5. (Original) The image processing device as claimed in claim 4, wherein the foreground extractor computes the difference in location of like pixels in each image and selects the foreground pixels as those pixels whose difference in location falls above a threshold distance.

6. (Cancelled)

7. (Currently amended) An image processing system, comprising:

a stereo pair of cameras for taking a stereo pair of images;

a foreground extractor which detects foreground pixel information from the stereo pair of images, wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8 X 8 DCT blocks, and wherein a threshold is provided to determine whether an 8 X 8 DCT block is to be encoded at a first high level of quantization or a second lower level of quantization; and

an encoder coupled to the foreground extractor which encodes the the DCT blocks foreground pixel information at a first high level of quantization and which encodes background pixel information or at a second lower level of quantization relative to said first high level of quantization as indicated; wherein at least a majority of a bandwidth is encoded at the first high quantization level, and wherein said encoder provides bit stream information for decoding of both the high level of quantization and lower level of quantization that are encoded, [[;]] and

5

~~wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8 X 8 DCT blocks; and~~

~~wherein a threshold is provided to determine whether an 8 X 8 DCT block is to be encoded at the first high level of quantization or the second lower level of quantization,~~ wherein an encoding rate of the second lower level of quantization is not varied to accommodate an encoding rate of the first high level.

8.   (Currently amended) A method of encoding a stereo pair of images,
comprising <u>the steps of</u>:

receiving the stereo pair of images;

extracting foreground information from the stereo pair of images<u>, wherein</u> a contour of a participant whose image is at least part of the stereo pair of images is ~~not~~ represented ~~by a precise number of pixels but rather said contour is defined~~ <u>by a plurality of 8 X 8 DCT blocks</u>[[;]] <u>and wherein a threshold is provided to indicate whether a 8X 8 DCT block is to be encoded at a first high level of quantization or a second lower level of quantization;</u>[[,]] and

encoding the ~~foreground information~~ <u>DCT blocks</u> at a first high quantization level ~~and encoding background information of the stereo pair of images~~ <u>or</u> at a second lower quantization level relative to said first high level of quantization, <u>as indicated,</u> wherein at least a majority of a bandwidth is encoded at the first high quantization level,

6

Amendment After Final Rejection   Docket No. PHA 23,540
Serial No. 09/196,574

wherein said encoding step includes providing bit stream information for decoding of

both the high level of quantization and lower level of quantization[[;]], and

~~wherein a contour of a participant whose image is at least part of the stereo~~

~~pair of images is not represented by a precise number of pixels but rather said contour is~~

~~defined by a plurality of 8 X 8 DCT blocks; and~~

~~wherein a threshold is provided to determine whether an 8X 8 DCT block is to~~

~~be encoded at the first high level of quantization or the second lower level of~~

~~quantization,~~ wherein an encoding rate of the second lower level of quantization is not

varied to accommodate an encoding rate of the first high level.

9. (Original) The method in accordance with claim 8, wherein the step of

extracting includes the following steps:

identifying the locations of like pixels in each of the stereo pair of images;

calculating the difference between the locations of like pixels; and

determining for each set of like pixels whether the difference between

locations falls above a threshold difference, and if so identifying those pixels as

foreground information.

10. (Currently amended) The method in accordance with claim 8, wherein

the encoding step encodes an entire 8 X 8 block of DCT coefficients ~~as foreground~~

~~information~~ at the first higher level if at least a predetermined number of foreground

pixels are within the 8 X 8 block, otherwise the entire 8 X 8 block of DCT coefficients is encoded ~~as background information~~ at the second lower level.

11. (Currently amended) A computer program to process image data from a stereo pair of images, the computer program being stored on a computer-readable medium and comprising instructions to cause computer processor, when loaded with said instructions, to execute the steps of:

a foreground extracting step to detect foreground pixel information from the stereo pair of images, wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8 X 8 DCT blocks, [[;]] and wherein threshold is used to indicate whether an 8 X 8 block is a foreground block or a background block and

an encoding step for encoding a foreground block ~~pixel information~~ of at least one image at a first high quantization level and for encoding a background block ~~pixel information~~ of the at least one image at a second lower quantization level relative to said first high level of quantization, wherein said encoding step provides bit stream information for decoding of both the high level of quantization and lower level of quantization;

wherein at least a majority of a bandwidth is encoded at the first high quantization level, and

8

~~wherein a contour of a participant whose image is at least part of the stereo~~

~~pair of images is not represented by a precise number of pixels but rather said contour is~~

~~defined by a plurality of 8 X 8 DCT blocks; and~~

~~wherein the encoding step uses a threshold to determine whether an 8 X 8~~

~~block is to be encoded at the first high level of quantization or the second lower level of~~

~~quantization,~~ wherein an encoding rate of the second lower level of quantization is not

varied to accommodate an encoding rate of the first high level.

12. (Previously presented) The computer program as claimed in claim 11,

wherein the foreground extracting step determines which 8 X 8 DCT blocks contain at

least a predetermined amount of foreground pixel information; and wherein the

encoding step encodes an entire 8 X 8 block of DCT coefficients at the first high

quantization level if the 8 X 8 block of DCT coefficients contains the predetermined

amount of foreground pixel information.

13. (Previously presented) The computer program as claimed in claim 11,

wherein the step of foreground extracting computes the difference in location of like

pixels in each image and selects the foreground pixels as those pixels whose difference

in location falls above a threshold distance.

9

14. (Currently amended) An apparatus for processing a stereo pair of images, the apparatus comprising:

a memory which stores process steps; and

a processor which executes the process steps stored in the memory so as (i) to extract foreground information from the stereo pair of images, wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8 X 8 DCT blocks and wherein a threshold is provided to indicate whether an 8 X 8 DCT block is to be encoded at the first high level of quantization or the second lower level of quantization, and (ii) to encode the ~~foreground information~~ a DCT block at a first high level of quantization or ~~and to encode background~~ at a second lower level of quantization, as indicated, wherein at least a majority of a bandwidth is encoded at the first quantization level, and said encoder provides bit stream information for decoding of both the high level of quantization and lower level of quantization[[;]] and

~~wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8 X 8 DCT blocks; and~~

~~wherein a threshold is provided to determine whether an 8 X 8 DCT block is to be encoded at the first high level of quantization or the second lower level of quantization,~~ wherein an encoding rate of the second lower level of quantization [[to]] is not varied accommodate an encoding rate of the first high level.

10

Amendment After Final Rejection   Docket No. PHA 23,540
Serial No. 09/196,574

15. (Currently amended) An apparatus for processing a stereo pair of images,

the apparatus comprising:

a memory which stores process steps; and

a processor which executes the process steps stored in the memory so as (i) to

extract foreground information from the stereo pair of images in the form of foreground

8 X 8 DCT blocks of coefficients, wherein a threshold is provided to determine whether

a block is to be encoded as a foreground 8X8 DCT block and

(ii) to encode the foreground 8 X 8 DCT blocks of coefficients at a first high

level of quantization and to encode remaining background 8 X 8 DCT blocks of

coefficients at a second lower level of quantization;

wherein a threshold is provided to determine whether a block is to be encoded

at the first high level of quantization or the second lower level of quantization, wherein

an encoding rate of the second lower level of quantization is not varied to accommodate

an encoding rate of the first high level.

16. (Cancelled).

11